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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 12/13/2001

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/332,273

Applicant(s)

MIENTUS ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-21,23-37,40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) 40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-21,23-37 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. Amendment filed on October 18, 2001 has been entered.

Claim Objections

2. Claims 1, 3-20 are objected to because of the following informalities:

Claim 1, lines 9, 12, the acronym "PVC" should be spelled out.

Claim 1, line10, "wherein an intermediate layer positioned" should be changed to -- an intermediate layer is positioned --.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Abbreviation "PVC" in lines 9, 12, should be given the exact interpretation since it may stand for various meanings. For examining purposes it was interpreted as polyvinyl chloride.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 4, 5, 9, 14, 16, 18-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Freeman (US 4,946,532).

Freeman discloses a multilayer thermoplastic film comprising:

a polyolefin core layer having a first side and a second side (See column 9, lines 65-66),
an abrasion resistant first thermoplastic (See column 2, lines 59, 68) skin layer overlying the first side of the core layer (See Fig. 5; column 9, lines 9-14), and
a second thermoplastic (See column 2, lines 59, 68) skin layer overlying the second side of the core layer (See Fig. 5; column 9, lines 9-14),
a composition of the core layer being different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC (See column 10, lines 9, 33-44), and wherein an intermediate layer 53 is positioned between the core layer and first or second skin layer (See Fig. 6; column 9, lines 30-33; column 11, lines 45-47).

The co-extruded film may be hot stretched (See column 11, lines 22-23). In most applications, the extrudate is hot-stretched (See column 3, line 43). After extrusion and initial chilling the extrudate is reheated for stretching (See column 4, lines 8-12).

It is the Examiner's position that Freeman teaches in fact unoriented film, which is obtained after extrusion and initial chilling, before reheating the extrudate for stretching.

As to claim 4, a pressure sensitive adhesive overlies the second thermoplastic skin layer. See Figs. 5, 6; column 6, lines 12-20.

As to claim 5, a release liner of polymeric film (See column 2, lines 12-14) overlies the layer of pressure sensitive adhesive. See Figs. 5, 6; column 6, lines 12-20.

As to claims 9, 14, the thickness of the multilayer thermoplastic film is from 0.5 or less mils to 10 or more mils, and the thickness of the core layer being up to 80-90% of the overall thickness, and the thickness of the skin layers (or concentration of the skin layers which relates to the thickness) being then up to 10%. See column 3, lines 47-52; column 4, lines 5-7.

As to claim 16, at least one of skin materials comprises an adhesive material. See column 9, lines 38-42.

As to claims 18, 19, 20, the release liner is comprised of a silicone (which is by definition polyorganosiloxane) release coating composition overlying a backing liner. See Fig. 3A; column 6, lines 21-23.

7. **Claims 1, 3, 6-8, 13, 15** are rejected under 35 U.S.C. 102(b) as being anticipated by Sugimoto et al (US 4,888,223).

Sugimoto discloses a multilayer thermoplastic film comprising:
a core layer comprising having a first side and a second side (See column 3, lines 6-15),
an abrasion resistant first thermoplastic skin layer (See column 2, lines 52-53) overlying the first side of the core layer (See Fig. 5; column 9, lines 9-14), and

a second thermoplastic (See column 2, lines 59, 68) skin layer overlying the second side of the core layer (See Fig. 5; column 9, lines 9-14),

wherein a composition of the core layer is different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC (See column 3, lines 24-27), and wherein an intermediate layer is positioned between the core layer and first or second skin layer (See column 3, lines 9-23). The multilayer thermoplastic film is obtained by inflation of co-extruded film. See column 8, lines 14-27.

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Although Sugimoto does not expressly show that the multilayer thermoplastic film is obtained first by co-extrusion as an unoriented film, it is the Examiner's position that inflation orientation is a well known method conventionally used in the industry for orienting thermoplastic films, which includes a step of co-extruding an unoriented film in a tube shape, followed by inflation, as evidenced by **Kondo et al (US 4,731,214)**. See column 4, lines 64-68; column 5, lines 29-32.

Therefore, unoriented film is *inherently* shown by Sugimoto as a film obtained in a first co-extrusion step in inflation orientation method.

As to claims 3, 6, 7, 13, it is the Examiner's position that the multilayer thermoplastic film Sugimoto is clear inherently because the film is made for packaging food products from conventionally clear polymeric materials.

As to claims 8, 15, the core layer comprises at least one second polymeric material selected from ethylene-unsaturated carboxylic acid copolymers, ethylene-methacrylic acid copolymers, ionomers, and combinations thereof having a first side and a second side (See column 3, lines 6-15). Resins for the core layer are selected from those having a high adhesion (adhesive material) to adjoining layers (See column 3, lines 14-16).

8. **Claims 1, 6, 7, 10, 11, 13** are rejected under 35 U.S.C. 102(b) as being anticipated by Fukushima et al (US 4,542,061).

Fukushima discloses a multilayer thermoplastic film comprising:

a polyolefin core layer having a first side and a second side (See column 4, lines 2, 12-14; column 14, lines 50-51),

an abrasion resistant first thermoplastic skin layer overlying the first side of the core layer (See column 1, lines 4-8; column 4, lines 25-29; column 5, lines 20-24),

a second thermoplastic skin layer overlying the second side of the core layer (See column 1, lines 4-8; column 4, lines 25-29; column 5, lines 20-24),

wherein a composition of the core layer being different than a composition of the skin layers (See column 10, lines), and coextruded core and the skin layers (See column 7, lines 41, 50) are characterized by the absence of PVC (See column 1, lines 17-24; column 3, lines 28-43).

Further Fukushima teaches that the multilayer thermoplastic film has at least one other layer being on the inner and outer surfaces of the core layer. See column 17, lines 24-28). Therefore, Fukushima teaches an intermediate layer positioned between the core layer and first or second skin layer.

Fukushima also teaches “since films of large width are desired for agricultural uses, the multilayer inflation process is desirable”. See column 7, lines 45-47. The film is laminated together through multiple dies to form a tubular film, which is later stretched. See column 13, lines 3-6. It is the Examiner’s position that Fukushima’s co-extruded films can be used as unoriented films if used not for agricultural needs, depending on particular application.

As to claims 6, 7, 13, the film is transparent. See column 12, line 18.

As to claim 10, the core layer comprises a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the core layer (See column 8, lines 3, 9, 28-29).

As to claim 11, a thermoplastic skin layer is comprised of ionomers derived from sodium or zinc and an ethylene/methacrylic acid copolymer (See column 5, lines 8-15).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 41** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al (US 5,754,269) for the reasons of record as set forth in Paragraph No. 14 of the Office Action mailed on April 11, 2001 (Paper No. 5).

11. **Claims 1, 4, 6, 7, 12, 13, 16, 17, 21, 24, 34, 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benjamin et al (US 5,754,269) in view of Fukushima et al (US 4,542,061).

Benjamin discloses a multilayer thermoplastic film comprising:

a core layer comprising polyolefin having a first side and a second side (See column 21, lines 54, 58; column 29, lines 24, 31-33),

a first thermoplastic skin layer overlying the first side of the core layer (See column 29, lines 24, 31-33), and

a second thermoplastic skin layer overlying the second side of the core layer (See column 29, lines 24, 31-33),

wherein a composition of the core layer is different than a composition of the skin layers, and the core layer and the skin layers being characterized by the absence of PVC (See column 20, lines 50-67; column 21, lines 25-67), and wherein the film contains additional "core" layers (an intermediate layer) (See column 21, lines 53-57; column 22, lines 6-8; column 29, lines 31-

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33). The multilayer thermoplastic film is obtained by co-extrusion (an unoriented film) (See column 29, lines 31-33).

Benjamin fails to teach that the first thermoplastic skin layer is an abrasion resistant layer.

Fukushima teaches that skin layers in a multilayer thermoplastic film can be made from abrasion resistant polyolefin materials for particular applications.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used abrasion resistant polyolefin materials of Fukushima in order to make skin layers in a multilayer thermoplastic film of Benjamin in order to abrasion resistant film for particular applications.

As to claim 12, Benjamin teaches that the core layer is pigmented (See column 29, lines 1-11, 44).

As to claims 6, 7, 13, Benjamin teaches that the core and skin layers are clear (See column 29, lines 4-5, 49).

As to claim 16, Benjamin teaches that at least one of the skin layers further comprises antiblock additive, stabilizers. See column 29, lines 44-46.

As to claims 4, 17, Benjamin teaches that an acrylic pressure sensitive adhesive overlies the second thermoplastic skin layer. See column 22, lines 17, 32-35.

As to claim 21, Benjamin further discloses that a core layer incorporates polymer additives such as stabilizers. See column 29, lines 44-46.

Benjamin fails to teach that

a density of a polyolefin being in the range of 0.891-0.97 g/cubic cm,

stabilizer is a light stabilizer, and a concentration of the light stabilizer in each layer being at 1000-20,000 ppm based on the weight of the layer.

It is the Examiner's position that a density of polyolefins conventionally used in abrasion resistant flexible films are in the range of 0.91-0.935 g/cubic cm, as evidenced by Fukushima (See column 4, lines 12-14).

Fukushima teaches that light stabilizers can be added to each layer of a multilayer film at a concentration of 500-20,000 ppm based on the weight of a layer for the use of the film for the cultivation of agricultural products (See column 8, lines 8-10, 24-30).

One of ordinary skill in the art would have reasonable expectation of success in using a light stabilizer in each layer of the Benjamin's film at a concentration 500-20,000 ppm based on the weight of the layer for the use in particular applications, as taught by Fukushima,.

As to claim 24, Benjamin teaches that a layer of pressure sensitive adhesive overlies the second thermoplastic skin layer. See column 22, lines 17, 32-35.

As to claim 34, Benjamin teaches that at least one of the skin layers further comprises antiblock additive, stabilizers. See column 29, lines 44-46.

As to claim 35, Benjamin teaches that the pressure sensitive adhesive layer comprises an acrylic adhesive. See column 22, lines 17, 32-35.

12. **Claims 21, 23, 26-28, 29, 31-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al (US 4,542,061) in view of Sugimoto et al (US 4,888,223).

Fukushima, as been discussed in paragraph 8, further discloses that a multilayered thermoplastic film comprises:

the core layer comprising: (a) a polymer selected from the group consisting of a polyolefin having a density in the range of 0.910-0.935 g/cubic cm (See column 4, lines 2, 12-14; column 14, lines 50-51) and a second polymeric material such as an ethylene-acrylic acid copolymer (See column 4, line 10); (b) a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the core layer (See column 8, lines 3, 9, 28-29),

an abrasion and scuff resistant clear first thermoplastic skin layer of an ionomer overlying the first side of the core layer, the first skin layer comprising a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the first skin layer (See column 8, lines 4, 9, 28-29), and

a clear second thermoplastic skin layer overlying the second side of the core layer (See column 12, lines 18, 65), the second skin layer comprising a light stabilizer at a concentration of 500-20,000 ppm based on the weight of the second skin layer (See column 8, lines 4, 9, 28-29), wherein the core and the skin layers (See column 7, line 50) are characterized by the absence of PVC (See column 1, lines 17-24; column 3, lines 28-43).

Further Fukushima teaches that the multilayer thermoplastic film has at least one other layer being on the inner and outer surfaces of the core layer. See column 17, lines 24-28.

Therefore, Fukushima teaches an intermediate layer positioned between the core layer and first or second skin layer.

Fukushima also teaches that the multilayer inflation process is desirable since films of large width are desired for agricultural uses. See column 7, lines 45-47. The film is laminated together through multiple dies to form a tubular film, which is later stretched. See column 13,

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lines 3-6. It is the Examiner's position that Fukushima's co-extruded films can be used as unoriented films if used not for agricultural needs, depending on particular application.

Fukushima fails to teach that a concentration of the second polymeric material in the core layer is 2-25%.

Sugimoto teaches that resins of the core layer of a coextruded multilayered film (See column 2, lines 27-29) are selected from those having a high adhesion to skin layers such as polyolefins, ethylene-acrylic acid copolymers, or mixtures thereof when the skin layers are made of polyolefin or polyamide. See column 3, lines 14-27.

It would have been obvious to a person of ordinary skill in the art to optimize the amount of a secondary resin (result-effective variable) in a core layer of Fukushima in order to provide good adhesion between layers, depending on nature of the skin layers, as taught by Sugimoto.

As to claim 23, It is the Examiner's position that Fukushima teaches a clear top layer by showing that the multilayer thermoplastic film has at least one other layer being on the inner and outer surfaces of the core layer (See column 17, lines 24-28).

As to claim 26, Fukushima teaches that the skin layers have the same or different composition (See column 7, lines 47-50).

As to claim 27, Fukushima teaches that a composition of the core layer is different than a composition of the skin layers (See column 7, lines 31-56).

As to claim 28, Fukushima teaches that the core and the skin layers comprise a coextrudate (See column 7, line 50).

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As to claim 29, Fukushima teaches that the ionomer of the first thermoplastic skin layer of is derived from sodium or zinc and an ethylene/methacrylic acid copolymer (See column 1, lines 5-8; column 5, lines 8-15, 20-24).

As to claim 31, Fukushima teaches that the core layer is clear. See column 10, line 1.

As to claim 32, Fukushima teaches that the core layer has thickness of 30-200 microns (See column 7, lines 56-58), and the skin layers has thickness of 10-20 microns See column 7, lines 60-63).

As to claims 33, 34, Fukushima teaches that the core layer and the skin layers have good inter-laminar adhesive strength (in other words, contain an adhesive material) (See column 7, lines 43-45).

13. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Fukushima et al (US 4,542,061), and Sugimoto et al (US 4,888,223), further in view of Benjamin et al (US 5,754,269).

Combination of Fukushima, and Sugimoto, as been discussed in the paragraph 12, fails to teach that the core layer is pigmented.

Benjamin teaches that a core layer of a clear multilayer film may be pigmented to make the clear film visible (See column 29, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have pigmented a core layer of a clear multilayer film of combination of Fukushima, and Sugimoto in order to make the film visible if desired depending on particular application.

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14. **Claims 25, 36, 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Benjamin et al (US 5,754,269) and Fukushima et al (US 4,542,061), further in view of Freeman (US 4,946,532).

Combination of Benjamin and Fukushima, as been discussed in the paragraph 11, fails to teach that:

a release liner of polymeric film overlies the layer of pressure sensitive adhesive (claim 25),

the release liner is comprised of release coating composition overlying a backing liner of polymeric film (claim 36),

release coating composition is a silicone (which is by definition polyorganosiloxane) (claim 37).

It is the Examiner's position that it is well known and conventional in the art to use a release liner overlying a layer of pressure sensitive adhesive, the release liner being comprised of a silicone (which is by definition polyorganosiloxane) release coating composition overlying a backing liner of polymeric film, as evidenced by Freeman (See Fig. 3A, 5, 6; column 2, lines 12-14; column 6, lines 12-23).

One of ordinary skill in the art would have reasonable expectation of success in covering pressure sensitive adhesive of combination of Benjamin and Fukushima with a conventional release liner, the release liner being comprised of a conventional silicone release coated polymeric backing film, as taught by Freeman.

Response to Arguments

15. Applicant's arguments filed October 18, 2001 have been fully considered but they are not persuasive.

(A) Applicant argues that a claimed unoriented film is not anticipated by Sugimoto because Sugimoto's films are biaxially oriented in order to be heat-shrinkable.

However, Sugimoto does teach an unoriented film, e.g., a film obtained by co-extrusion right before the biaxial orientation.

~~(B) Applicant argues that Fukushima fails to teach that an intermediate layer.~~

However, Fukushima teaches an intermediate layer positioned between the core layer and first or second skin layer in a multilayer thermoplastic film by teaching at least one other layer being on the inner and outer surfaces of the core layer. See column 17, lines 24-28.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (703) 605-1171. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

ET

Elena Tsoy
Examiner
Art Unit 1762

December 11, 2001


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